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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	**Application No.** 10/826,973	**Applicant(s)** NILES ET AL.	
	Examiner Jason M. Repko	**Art Unit** 2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 June 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,9-19,71,74-81,86,88 and 94-112* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,9-19,71,74-81,86,88 and 94-112* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 October 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 71, 74, 75, 77, 78, 94, 95, 96, 98-104, 106 and 107 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,714,201 to Grinstein et al.

3. Regarding claim 71, Grinstein et al. disclose "a method for animating an object using a behavior, comprising:

a. outputting an original animation for the object according to a first parameter behavior (*lines 17-20 of column 53: "Since Mojo is a real-time motion editor, the model of the running man is shown moving according to a set of motions that have been applied to the individual nodes of its hierarchical model."*), the first parameter behavior (*Gravity global controller as disclosed in 6.4.2.10, column 49*) indicating how to change a value of a first parameter over time (*lines 12-14 of column 29: "A Behavior is an action that changes a motions parameters."; lines 22-23 of column 29: "A Behavior expression may be a single action , or a list of actions..."; lines 60-62 of column 49: "Wind and Gravity are two global controllers that influence Controlled motions. The variable parameters on a controlled motion are derived from the controllers."*), wherein the first parameter applies to a motion behavior applied to the object (*lines 1-2 of column 50: "There are*

currently 4 Controlled motions: Sail, Sway, Waver, and Whirl, as is indicated in Table 29.");

b. concurrently with outputting the original animation (*lines 7-11 of column 58: "As the user changes any of the controls shown in the show-parameters window 558, a corresponding interactive change is made to the animation of its associated motion in the scene-view window 503."; see FIG. 42 shows a dialog box 558 to accept user input concurrently with an animation 503*):

i. receiving a first user input, the first user input <u>directly</u> specifying a second parameter of the motion behavior (*lines 31-32 of column 7: "FIG. 29 shows the Motion Editor/Viewer's dialog box for setting the parameters of the Sway Controller"*); and

ii. receiving a second user input, the second user input <u>directly</u> specifying (*lines 38-39 of column 7: "FIG. 32 shows the Motion Editor/Viewer's dialog box for setting the parameters of the Wind Controller"*) a second parameter behavior (*Wind global controller as disclosed in 6.4.2.10, column 49*), the second parameter behavior indicating how to change a value of the second parameter over time (*lines 60-62 of column 49: "Wind and Gravity are two global controllers that influence Controlled motions. The variable parameters on a controlled motion are derived from the controllers."*);

c. outputting an updated animation for the object (*lines 5-11 of column 63: "After such call is made with such a change to the parameter of a motion, the next time a call is made to om::update( ) the position, orientation, and scaling value of the motion will be*

updated, taking such a change into account. As a result, the system enables a user to see the effect of changes in the definition of the motion upon the operation of that motion as such changes are made.") according to the first parameter behavior and further according to the second parameter behavior (*lines 55-59 of column 57: "When the show-parameters option is selected for a model node that has had a plurality of motions associated with it, the window will be shown for the, top-most motion node under that model node, which will be the most recently added motion."*).

4. Grinstein's "controlled motion" (i.e. Sway) is analogous to the claimed "motion behavior," and the dialog box in FIG. 29 provides a means for directly specifying parameters to the Sway controlled motion. The Gravity and Wind global controllers are analogous to a first and second "parameter behavior." The Wind global controller is directly specified via the dialog box in Figure 32.

5. Regarding claims 74 and 75, Grinstein et al. disclose "outputting the updated animation is performed without interrupting the animation for the object" and "the updated animation reflects the application of the second parameter behavior in real-time" (*lines 7-11 of column 58 (emphasis added): "As the user changes any of the controls shown in the show-parameters window 558, a <u>corresponding interactive change</u> is made to the animation of its associated motion in the scene-view window 503."; lines 5-11 of column 63 (emphasis added): "... As a result, the system enables a user to see the effect of changes in the definition of the motion upon the operation of that motion <u>as such changes are made.</u>"*).

6. Regarding claim 77, Grinstein et al. disclose "outputting the original animation and outputting the updated animation each comprise rendering each of a plurality of frames

sequentially" (*lines 51 of column 16 through line 3 of column 17 discloses the update loop which sequentially render a plurality of frames until the loop termination condition is met*).

7. Regarding claim 78, Grinstein et al. disclose "outputting the original animation and outputting the updated animation each comprise rendering each of a plurality of frames sequentially by calculating a current frame based on a previous frame" (*lines 17-20 of column 6: "The algorithm must synchronize and dispatch updates at each frame, as well as predicting, detecting and resolving interactions, such as collisions, that might occur between frames."; TABLE 18 in column 32: "...Time accumulated in previous and current activations."; lines 20-25 of column 32: "For example, a state that is active for 10 seconds, then transitions to another state..."*).

8. Regarding claim 94, Grinstein et al. disclose "in a computer-implemented animation system, a method for animating an object, the method comprising:

d. receiving a first input, the first user input directly specifying a first parameter of a behavior (*"Whril" as shown in TABLE 29, column 50*") applied to the object (*dialog boxes supply input for the controlled motions such as Whril and Sway lines 31-32 of column 7: "FIG. 29 shows the Motion Editor/Viewer's dialog box for setting the parameters of the Sway Controller"; dialog box for Spin, a counterpart to Whril, is shown in Figure 16*);

e. receiving a second user input, the second user input directly specifying (*lines 38-39 of column 7: "FIG. 32 shows the Motion Editor/Viewer's dialog box for setting the parameters of the Wind Controller"*) a first parameter behavior (*Wind global controller as disclosed in 6.4.2.10, column 49*), the first parameter behavior indicating how to

change a value of the first parameter over time (*lines 12-14 of column 29: "A Behavior is an action that changes a motions parameters."; lines 22-23 of column 29: "A Behavior expression may be a single action , or a list of actions..."; lines 60-62 of column 49: "Wind and Gravity are two global controllers that influence Controlled motions. The variable parameters on a controlled motion are derived from the controllers."; Whirl is controlled by wind, gravity as shown in TABLE 29 in column 50*);

f. animating the object by changing the value of the first parameter over time according to the first parameter behavior, wherein animating the object comprises not changing the object's position (*Whirl rotates the object -- similar to spin -- as shown in TABLE 29 in column 50, which changes the orientation, not the position of an object*); and outputting the animated object (*lines 5-11 of column 63: "After such call is made with such a change to the parameter of a motion, the next time a call is made to om::update() the position, orientation, and scaling value of the motion will be updated, taking such a change into account. As a result, the system enables a user to see the effect of changes in the definition of the motion upon the operation of that motion as such changes are made."*).

9. Grinstein's "controlled motion" (i.e. Whirl) is analogous to the claimed "behavior," and the dialog box in FIG. 29 provides a means for directly specifying parameters to the Whirl controlled motion. The Gravity and Wind global controllers are analogous to a first and second "parameter behavior." The Wind global controller is directly specified via the dialog box in Figure 32.

10. Claims 95, 96, 98-104 recite limitations similar in scope to those presented in claims 9, 10, 12-18, respectively. Claims 95, 96, 98-104 are rejected with the rationale presented with respect to claims 9, 10, 12-18, respectively.

11. Regarding claim 106, Grinstein et al. disclose "receiving a third input, the third input specifying a second parameter behavior, the second parameter behavior indicating how to change a value of a second parameter over time (*lines 4-7 of column 57: "In this case an add motion dialog box 566 will be displayed which contains a scrollable list 568 of previously defined motions. The user can select one of these motions and then click the apply button 570 which will then add the selected motion to the currently selected node."*), wherein animating the object comprises changing the value of the first parameter over time according to the first parameter behavior and further according to the second parameter behavior (*lines 5-11 of column 63: "After such call is made with such a change to the parameter of a motion, the next time a call is made to om::update() the position, orientation, and scaling value of the motion will be updated, taking such a change into account. As a result, the system enables a user to see the effect of changes in the definition of the motion upon the operation of that motion as such changes are made."*).

12. Regarding claim 107, Grinstein et al. disclose "receiving a third input, the third input specifying a second parameter of the behavior applied to the object" (*section 6.4.3 and FIGS. 9-29 describe the dialog boxes used to receive used to specify a plurality of parameter of the motion behaviors applied to the object*); "receiving a fourth input, the fourth input specifying a second parameter behavior, the second parameter behavior indicating how to change a value of a second parameter over time (*lines 4-7 of column 57: "In this case an add motion dialog box 566 will be displayed which contains a scrollable list 568 of previously defined motions. The user can*

select one of these motions and then click the apply button 570 which will then add the selected motion to the currently selected node."), and wherein animating the object comprises changing the value of the first parameter over time according to the first parameter behavior and changing the value of the second parameter over time according to the second parameter behavior (*lines 34-49 of column 37 as cited in claim 1; see section 6.2.8.4; lines 48-50 of column 45 (emphasis added): "Motions that comprise <u>more than one primitive motion</u> are called composite motions."; see also section 6.4.2.3 in column 46*). Table 24 in column 24 shows a table of motions. One of ordinary skill in the art would recognize that the system disclosed by Grinstein et al. is capable of applying a second parameter behavior to animate the object as shown in section 6.2.8.4, section 6.4, the "add motion" option described in lines 4-7 of column 57, and the "Mojo editor" in section 7.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

16. **Claims 1, 4, and 9-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,714,201 to Grinstein et al. in view of Jonathan Korein, Norman Badler, "Temporal Anti-Aliasing in Computer Generated Animation," July 1983, ACM SIGGRAPH Computer Graphics, Vol. 17, No. 3, pp. 377-388 ("Korein et al.").**

17. Regarding claim 1, Grinstein et al. disclose "in a computer-implemented animation system, a method for animating an object, the method comprising:

g. receiving a first input, the first input specifying a first parameter behavior indicating how to change a value of a first parameter over time (*FIGS. 12, 15, 18 and 22; lines 25-27 of column 51: "Ease sliders control the acceleration and deceleration to and from a displacement sequence."*), wherein the first parameter applies to a generator applied to the object, wherein the generator comprises a repeating image (*lines 27-34 of column 51: "For example, a "Swing" motion may have a lifetime of 10 minutes with a displacement of 90 degrees left and right at a speed of one swing per second, a 1-second swing to the left followed by a 1-second swing to the right. A choice is given in the Ramp setting of AM or FM. AM controls the amplitude of the motion. At 50% IN the swing*

displacement will start at 0 degrees and ramp up to 90 degrees after 5 minutes. FM controls the frequency.");

h. animating the object by changing the value of the first parameter over time according to the specified parameter value (*lines 46-53 of column 75: "...generating an animated view of the given model in which the given model is rendered at each of a succession of time values with individual ones of the model's nodes being shown in each successive rendering as having a position and orientation determined as a function of the value for the rendering's corresponding time value of the position and orientation values defined by the node's associated motion..."; lines 27-34 of column 51: "...At 50% IN the swing displacement will start at 0 degrees and ramp up to 90 degrees after 5 minutes..."*); and

i. outputting the animated object (*lines 17-20 of column 53: "Since Mojo is a real-time motion editor, the model of the running man is shown moving according to a set of motions that have been applied to the individual nodes of its hierarchical model."*).

Grinstein et al. does not use the language generator however the Ramp and Ease controls applied to the Swing motion applied to the object are analogous to a generator because the 10 minute motion comprising 1-second swing to the left followed by a 1-second swing to the right would repeat the image of the object at each position of the swing a plurality of times for the duration of the 10 minute motion.

18. The claim language "the first parameter applies to one element of a group consisting of a filter….and a generator…wherein the filter comprises…wherein the generator comprises…" is interpreted as requiring only one element of the group.

19. Grinstien et al. do not expressly disclose "a repeating image wherein the repeated images are shown simultaneously."

20. Regarding claim 1, Korein et al. disclose "a repeating image wherein the repeated images are shown simultaneously" (*p. 384, spaghetti effect as shown in Figure 5(a) and (b)*).

21. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to add Korein's method to show repeated images simultaneously as a display setting in Grinstien's animation system. The motivation for doing so would have been to increase the number of effects in the animator's repertoire, which would enable the animator to emulate early cel animations (see Korien et al., figure 1b and in the first full paragraph on p. 384). Therefore, it would have been obvious to combine Korien et al. with Grinstein et al. to obtain the invention specified in claim 1.

22. Claim 4 is met by the combination of Grinstein et al. and Korien et al., wherein Grinstein et al. disclose "receiving a second input, the second input specifying a second parameter behavior (*lines 4-7 of column 57: "In this case an add motion dialog box 566 will be displayed which contains a scrollable list 568 of previously defined motions. The user can select one of these motions and then click the apply button 570 which will then add the selected motion to the currently selected node."*), the second parameter behavior indicating how to change a value of a second parameter over time, and wherein animating the object further comprises changing the value of the second parameter according to the second specified parameter behavior (*lines 34-49 of column 37 as cited in claim 1*; *see section 6.2.8.4; lines 48-50 of column 45 (emphasis added): "Motions that comprise <u>more than one primitive motion</u> are called composite motions."; see also section 6.4.2.3 in column 46*). Table 24 in column 24 shows a table of motions. One of ordinary

skill in the art would recognize that the system disclosed by Grinstein et al. is capable of applying a second parameter behavior to animate the object as shown in section 6.2.8.4, section 6.4, the "add motion" option described in lines 4-7 of column 57, and the "Mojo editor" in section 7.

23. Claim 9 is met by the combination of Grinstein et al. and Korien et al., wherein Grinstein et al. disclose "the first parameter behavior indicates that the value of the first parameter should be averaged over time" (*lines 53-56 of column 28 (emphasis added): "Sometimes a complex motion is a blend of two motions acting independently. In contrast to hierarchy, blending is accomplished by weighted <u>averaging</u> of degree-of-freedom parameters, not by composing transformations."*).

24. Claim 10 is met by the combination of Grinstein et al. and Korien et al., wherein Grinstein et al. disclose "the first parameter behavior indicates that the value of the first parameter should be changed using a user specified custom change" (*lines 12-20 of column 58: "The show parameter window also includes a frequency slider 558C, which defines the speed at which the swing motion being edited will be performed, a phase angle slider 558D that shifts the phase of the swing motion. Each of the sliders 558A through 558D includes a corresponding edit box 558AA through 558DD, which enables a user to see a numerical representation of the current value entered by a slider, or which enables the user to enter an exact desired numerical value."*).

25. Regarding claim 11, Grinstein et al. further disclose a negation operator (*Table 6 of column 20: "...(void) Scalar& unary negate = (const Scalar& s)..."*). In the code snippet in section 6.2.8.3, Grinstein et al. disclose changing the value of a first parameter. Grinstein et al.

does not expressly disclose the first parameter behavior indicates that the value of the first parameter should be negated. At the time of the invention it would have been obvious to one of ordinary skill in the art to employ the negation operator as disclosed by Grinstein et al. in Table 6 to the first parameter value of the motion. The motivation for doing so would have been to create an opposing, reversed or mirrored motion. Thus, it would have been obvious to further modify the combination to arrive at the invention of claim 11.

26. Regarding the following rejections of claims 12-18, it should be noted one of ordinary skill in the art would recognize that other motions could be substituted for the "Swing" motion and a plurality of behaviors could be substituted to modify the parameters of that motion used in the illustrative example used in section 6.2.8.3 from the statements in section 6.1.3 (The Run Time Engine):

> *The motion package 132, includes the motion class 134, sub-classes of the motion class called primitive motion classes 136, and the trajectory class 138. The motion class is the class which is used to defined the motion of an object. Each object for which the OpenMotion System is to compute a motion is given an instance derived directly from the motion class or from a subclass of this class.*

27. Claim 12 is met by the combination of Grinstein et al. and Korien et al., wherein Grinstein et al. disclose "the first parameter behavior indicates that the value of the first parameter should oscillate over time" (*lines 41-42 of column 37 (emphasis added): "...// first, define a signal that <u>oscilates as a funct(time)</u> from -1 to 1 ScalarVar signal = sin(simTime( )) // now, using this signal, define a "Shake" motion that moves back and // fourth along the X axis Motion shake; shake.position(Vector::Xaxis * signal);..."*).

28. Claim 13 is met by the combination of Grinstein et al. and Korien et al., wherein Grinstein et al. disclose “the first parameter behavior indicates the value should ramp over time” (*lines 58-59 of column 25: "One creates a Motion by declaring a variable using the Motion type. Motion myMotion;"; line 9 of column 26: “...acceleration a Vector dv/dt, time derivative of velocity orientation...”; lines 22-25 of column 51: "Specialized settings have Ramp and Ease controls. Examples of the Specialized tab are shown in FIGS. 12, 15, 18, and 22. The Ramp sliders control the acceleration and deceleration in and out of an entire motion."*).

29. Claim 14 is met by the combination of Grinstein et al. and Korien et al., Grinstein et al. disclose “the first parameter behavior indicates that the value of the first parameter should be randomized” (*lines 38-41 of column 38: "...the velocity direction will be // varying randomly. BehaviorVar wander=(velocityControl(randomDir(simTime( )))..."*).

30. Claim 15 is met by the combination of Grinstein et al. and Korien et al., Grinstein et al. disclose “the first parameter behavior indicates that the value of the first parameter should change over time according to a specified rate” (*lines 59-61 of column 37: "// the StraightMotn is constructed so that it moves in the +Z direction at a // constant speed of 10 units per second. StraightMotn.velocity(0, 0, 1);"*).

31. Claim 16 is met by the combination of Grinstein et al. and Korien et al., Grinstein et al. disclose “the first parameter behavior indicates that changes to the value of the first parameter should be executed in reverse order” (*lines 62-65 of column 58: "In other embodiments of the invention different ranges of simulated clock speed change could be allowed, including negative speeds, which would make motions run backwards."*).

32. Claim 17 is met by the combination of Grinstein et al. and Korien et al., Grinstein et al. disclose "the first parameter behavior indicates that the value of the first parameter should not change" (*lines 57-59 of column 29: "Sometimes one needs to set a motion parameter to a fixed value. This is done by a sub-class of behaviors called a constant controller... "; section 6.2.6.2*).

33. Claim 18 is met by the combination of Grinstein et al. and Korien et al., Grinstein et al. disclose "the first parameter behavior indicates that the value of the first parameter should wriggle over time" (*lines 30-45 of column 45: "Shake translate back and forth 2.1 jiggle multidirectional soft random shake...2.3 shimmy random shake in one direction...45 totter random rotations on the horizontal 4.6 wobble random rotations on vertical"; see also line 20 of column 46*).

34. **Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,714,201 to Grinstein et al. in view of Jonathan Korein, Norman Badler, "Temporal Anti-Aliasing in Computer Generated Animation," July 1983, ACM SIGGRAPH Computer Graphics, Vol. 17, No. 3, pp. 377-388 ("Korein et al.") in view of U.S. Patent No. 5,883,639 to Walton et al.**

35. Regarding claim 2, the combination of Grinstein et al. and Korein et al. does not disclose "the object comprises a two-dimensional object."

36. Walton et al. shows an animated object comprising a text object that can have behaviors attached to it (*lines 62-67 of column 12: "Line attributes, drawing modes, shapes and <u>text</u> may also be selected in accordance with techniques known to those skilled in the art."; Fig. 4b shows behaviors*).

37. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate a text object as taught by Walton et al. in the system disclosed by Grinstein et al. The motivation for doing so would have been to enhance the usability and efficiency of the method in the computer implemented animation system so the animator can be more productive, otherwise the letters would have to be created by grouping primitive shapes in three dimensions. Therefore, it would have been obvious to combine Grinstein et al. with Walton et al. to obtain the invention specified in claim 2.

38. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,714,201 to Grinstein et al. in view of Jonathan Korein, Norman Badler, "Temporal Anti-Aliasing in Computer Generated Animation," July 1983, ACM SIGGRAPH Computer Graphics, Vol. 17, No. 3, pp. 377-388 ("Korein et al.") in view of U.S. Patent No. 6,011,562 to Gagne et al.

39. Regarding claim 3, Grinstein et al. disclose "animating the object comprises changing the value of the first parameter according to the specified parameter behavior (*lines 34-49 of column 37: as shown in claim 1*) and. While Grinstein et al. disclose key frames (*table 3 in column 15: "Define paths with key frames & scripting interpolating function"*).

40. The combination of Grinstein et al. and Korein et al. does not expressly disclose "receiving a second or third input, the a second or third input specifying a parameter keyframe indicating the value for the first parameter at a first point in time."

41. Regarding claim 3, Gagne et al. disclose "further comprising receiving a second input, the second input specifying a parameter keyframe indicating the value for a parameter at a point in time (*lines 60-64 of column 4: "For example, a position versus time F-curve can be modified*

such that an object moves with a linear or a non-linear speed, as desired by deleting, storing and/or repositioning keyframes and interpolation parameters with respect to the time axis in the F-curve editor."), and wherein animating the object comprises changing the value of the parameter according to the specified parameter behavior and further according to the specified parameter keyframe" (*lines 55-59 of column 4: "For each time-changing parameter associated with the animation, the parameter is displayed in the F-curve editor for the keyframes and is interpolated for the remaining frames to form the F-curve which the animator can manipulate to change the parameter with respect to time."*).

42. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate keyframes as taught by Gagne et al. in the method and system disclosed by Grinstein et al. The motivation for doing so would have been to increase the functionality of the animation interface by providing the animator with the ability to vary the degree of control over the animation. Therefore, it would have been obvious to combine Grinstein et al. and Korein et al. with Gagne et al. to obtain the invention specified in claim 3.

43. **Claims 88, 97 and 110 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,714,201 to Grinstein et al.**

44. Regarding claim 97, Grinstein et al. disclose a negation operator (*Table 6 of column 20: "...(void) Scalar& unary negate = (const Scalar& s)..."*). In the code snippet in section 6.2.8.3, Grinstein et al. disclose changing the value of a first parameter. Grinstein et al. does not expressly disclose the first parameter behavior indicates that the value of the first parameter should be negated. At the time of the invention it would have been obvious to one of ordinary skill in the art to employ the negation operator as disclosed by Grinstein et al. in Table 6 to the

first parameter value of the motion. The motivation for doing so would have been to create an opposing, reversed or mirrored motion.

45. Regarding claims 88 and 110, Grinstein et al. disclose "in a computer-implemented animation system, a method for animating an object, the method comprising:

j. receiving an input, the input specifying a behavior to apply to the object (*Figures 29-32 show dialog boxes for accepting user input and a plurality of parameters for the sway -- or whirl -- and wind controllers*), the behavior indicating how to change a value of a parameter of an object over time (*lines 12-14 of column 29: "A Behavior is an action that changes a motions parameters."*; *lines 34-49 of column 37 (emphasis added): "6.2.8.3 Motion Derivatives...Motion [Derivative] shows how the 0-2nd order motion derivatives can be used as parameters to create complex, interrelated motions... // first, define a signal that oscilates as a funct(time) from -1 to 1...// now we can create a derived motion whose position is controlled by the // velocity of the Shake motion. Motion derivedShake; derivedShake.positon(velocity(Shake)... "*);

k. animating the object by changing the value of the parameter of the object over time according to the specific behavior (*lines 46-53 of column 75: "...generating an animated view of the given model in which the given model is rendered at each of a succession of time values with individual ones of the model's nodes being shown in each successive rendering as having a position and orientation determined as a function of the value for the rendering's corresponding time value of the position and orientation values defined by the node's associated motion..."; section 6.2.6 describes Behaviors which changing the value of a first parameter over time*); and

l. outputting the animated object (*lines 17-20 of column 53: "Since Mojo is a real-time motion editor, the model of the running man is shown moving according to a set of motions that have been applied to the individual nodes of its hierarchical model."*).

46. In addition, Grinstein et al. disclose proximity predicates (*lines 65-67 of column 33: "These predicates test the relationship between a Motion's boundary attribute and another boundary."*) that trigger state transitions (*line 63 of column 30*). Grinstein et al. defines state transitions in section 6.2.6.4:

> A behavior may represent a complex finite state machine. Each state contains a list of actions to be performed when entering that state. Each state also has a list of state transitions. Each transition is guarded by a Boolean condition. The conditions are activated when the state is first entered. When the condition evaluates to true, the corresponding action is triggered *(lines 47-54 of column 30).*

Grinstein et al. disclose a Drag behavior, (*in lines 22-23 of column 35, Boundary Behaviors, section 6.2.7.6, Table 23*), which "changes a position of the object based on a simulated friction" (*lines 17-22 of column 36: "The parameters, gain and bias, affect the normal and tangential components of a boundary interaction. These parameters can be adjusted to simulate effects of gain or loss of momentum, for example due to elasticity and friction. To set these parameters, they are chained off the end of the boundary Behavior..."*). Furthermore, Grinstein et al. disclose this can be done "regardless of the object's proximity to another location" because a boundary can be specified by boundary expressions as disclosed in 6.2.7.4 and Table 20 (*column 33*), which are not necessarily associated with an proximity to a location. Specifically, Grinstein et al. disclose the spatial predicate "isInside" (TABLE 22 in column 34), where the boundary

expression passed to this spatial predicate can be a sphere or box (TABLE 20 in column 33). For an object placed inside a box or sphere boundary, the resulting motion would apply gain and bias, simulating the effects of friction, for the object anywhere inside a volume, regardless of the object's proximity to a location.

47. The claim language "the behavior comprises one from a group consisting of…a Drag behavior…Rotational Drag…" is interpreted as requiring only one element of the group.

48. At the time of the invention it would have been obvious to affect apply the "Drag" behavior (*lines 17-22 of column 36*) to the object when the object encounters a boundary (*i.e. "myBounds"* in *lines 23-28 of column 36*) such that the boundary is not associated with an object but simply a region specified by a boundary expression. The motivation for doing so would have been to realistically model friction of an object traveling through a medium. Therefore, it would have been obvious to use the teachings of Grinstein et al. to obtain the invention specified in claims 88 and 110.

49. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,714,201 to Grinstein et al. in view of Jonathan Korein, Norman Badler, "Temporal Anti-Aliasing in Computer Generated Animation," July 1983, ACM SIGGRAPH Computer Graphics, Vol. 17, No. 3, pp. 377-388 ("Korein et al.") in view of U.S. Patent Application Publication No. 2004/0036711 to Anderson.

50. Regarding claim 19, the combination of Grinstein et al. and Korein et al. does not expressly disclose "an image object; a text object; a particle system."

51. Anderson discloses "the object comprises one from a group consisting of: an image object; a text object; a particle system," wherein Anderson discloses a particle system

(*paragraph [0057]: "The user can place a group of dirt particles where the bunny lands. A dust tool can be activated, for example by selecting an icon having a handle attached to a hoop. The user can sweep the dust tool through the dirt particles--with each sweep, all the particles within the hoop are moved slightly in the direction of the sweep."*).

52. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate a particle system as disclosed by Anderson in the system disclosed by Grinstein et al. The motivation for doing so would have been model the physical properties smoke and explosions for example. Therefore, it would have been obvious to combine Grinstein et al. and Korein et al. with Anderson to obtain the invention specified in claim 19.

53. **Claims 76 and 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,714,201 to Grinstein et al. in view of U.S. Patent No. 6,266,053 to French et al.**

54. Regarding claims 76 and 79, Grinstein et al. disclose “outputting the original animation and outputting the updated animation” as shown in the rejection of parent claim 71; however, Grinstein et al. does not disclose “caching the rendered frames” as in claim 76, or “periodically caching a subset of the rendered frames in an interval cache” as in claim 79.

55. French et al. disclose “caching the rendered frames” (*lines 45-48 of column 14: "The cache is opened in append mode, then each frame is displayed and cached in sequence, finally the cache is closed and the sequence can be replayed at full speed."*) as in claim 76, and “periodically caching a subset of the rendered frames in an interval cache” (*lines 60-62 of column 13: "There may be frame caches for a particular instant, or extended cached clips, which have a finite duration. "*) as in claim 79.

56. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate a cache for frames as taught by French et al. in the system disclosed by Grinstein et al. The motivation for doing so would have been to accelerate playback of the frames. Therefore, it would have been obvious to combine Grinstein et al. with French et al. to obtain the invention specified in claims 76 and 79.

57. **Claims 80 and 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,714,201 to Grinstein et al. in view of U.S. Patent Application Publication No. 2001/0030647 to Sowizral et al.**

58. Regarding claim 80, Grinstein et al. disclose the limitations of parent claim 71; however, Grinstein et al. does not disclose multi-threaded rendering. Sowizral discloses "outputting the original animation and outputting the updated animation each comprise evaluating, by a first thread, a first subset of frames, and evaluating, by a second thread, a second subset of frames" (*paragraph [0015]: "The render bin may have one or more render threads associated with it, thereby enabling parallel rendering utilizing multiple processors."; paragraph [0014]: "Each structure may be an object that manages selected data from the scene graph, and the plurality of <u>threads</u> may be executable to render <u>one or more frames</u> corresponding to the scene graph."*).

59. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate multiple threads, as taught by Sowizral et al, in the system disclosed by Grinstein et al. for evaluating subsets of frames. The motivation for doing so would have been to improve performance. Therefore, it would have been obvious to combine Grinstein et al. with Sowizral et al. to obtain the invention specified in claim 80.

60. Regarding claim 81, Sowizral et al. does not expressly disclose "the first subset and the second subset of frames each comprise alternate frames of the animation." It would have been obvious for one of ordinary skill in the art at the time of the invention to alternate subsets of frames of the animation. The motivation for doing so would have been to improve performance, as one of ordinary skill in the art would recognize that adjacent subsets of frames would be displayed sequentially. Therefore, it would have been obvious to further modify the combination of Sowizral et al. and Grinstein et al. to obtain the invention specified in claim 81.

61. **Claim 86 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,714,201 to Grinstein et al. in view of U.S. Patent Application No. 2002/0003540 to Unuma et al.**

62. Regarding claim 86, Grinstein et al. disclose "in a computer-implemented animation system, a method for animating an object, the method comprising:

m. receiving an input, the input specifying a behavior (*Figures 29-32 show dialog boxes for accepting user input and a plurality of parameters for the sway and wind controllers*), the behavior indicating how to change a value of a parameter of an object over time (*lines 12-14 of column 29: "A Behavior is an action that changes a motions parameters."*; *lines 34-49 of column 37 (emphasis added): "6.2.8.3 Motion Derivatives...Motion [Derivative] shows how the 0-2nd order motion derivatives can be used as parameters to create complex, interrelated motions... // first, define a signal that <u>oscilates as a funct(time) from -1 to 1</u>...// now we can create a derived motion whose <u>position is controlled by the // velocity</u> of the Shake motion. Motion derivedShake; derivedShake.positon(velocity(Shake)... "*);

n. animating the object by changing the value of the parameter of the object over time according to the specific behavior (*lines 46-53 of column 75: "...generating an animated view of the given model in which the given model is rendered at each of a succession of time values with individual ones of the model's nodes being shown in each successive rendering as having a position and orientation determined as a function of the value for the rendering's corresponding time value of the position and orientation values defined by the node's associated motion..."; section 6.2.6 describes Behaviors which changing the value of a first parameter over time*); and

o. outputting the animated object (*lines 17-20 of column 53: "Since Mojo is a real-time motion editor, the model of the running man is shown moving according to a set of motions that have been applied to the individual nodes of its hierarchical model."*).

63. Grinstein et al. does not expressly disclose "wherein the behavior comprises one from a group consisting of a Snap Alignment to Motion behavior and an Align to Motion behavior, each of which changes a rotation of the object based on a motion path of the object such that the rotation is not changed if the motion path is straight."

64. Regarding claim 86, Unuma et al. disclose "wherein the behavior comprises one from a group consisting of a Snap Alignment to Motion behavior and an Align to Motion behavior, each of which changes a rotation of the object based on a motion path of the object such that the rotation is not changed if the motion path is straight" (*paragraph [0131]: "In this graphic image, the person stands on the ground in a vertical direction i.e. along the z-axis. First, the transit point specifying unit 81 designates a transit point 401 of the person in FIG. 16. The moving direction controller 82 then rotates the object 1 about the y axis so that the front side thereof*

faces to the transit point 401.") and which can be configured regarding at least one of how quickly the object's rotation changes based on a change in the objects motion path (*paragraph [0131]: "First, the transit point specifying unit 81 designates a transit point 401 of the person in FIG. 16."*) and whether or not the object's change in rotation overshoots a new direction of the object. In paragraph [0097], Unuma discloses "to set the action speed, the operator uses a motion specification icon 33 of FIG. 2." Thus, by specifying the transit point 401, and in turn the difference in the original orientation of object 1 and the orientation object 1 when facing the transit point 401, one configures how quickly the object's rotation changes based on a change in the objects motion path. That is, if there is little difference in orientation then the object's rotation will change quickly, as compared to the situation where there is a great difference, given both situations rotate at the same speed, which is configured by the operator as disclosed in paragraph [0097]. It should be noted that Unuma et al. reads on the interpretation that "object's rotatation" is the object's rotational orientation or the object's rotational motion.

65. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate "changes a rotation of the object based on a motion path of the object such that the rotation is not changed if the motion path is straight" as taught by Unuma et al. in the system disclosed by Grinstein et al. The motivation for doing so would have been to realistically model human motion. Therefore, it would have been obvious to combine Grinstein et al. with Unum et al. to obtain the invention specified in claim 86.

66. Claim 105 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,714,201 to Grinstein et al. in view of U.S. Patent No. 6,011,562 to Gagne et al.

67. Regarding claim 105, Grinstein et al. disclose "animating the object comprises changing the value of the first parameter according to the specified parameter behavior (*lines 34-49 of column 37: as shown in claim 1*) and. While Grinstein et al. disclose key frames (*table 3 in column 15: "Define paths with keyframes & scripting interpolating function"*).

68. Grinstein et al. do not expressly disclose "receiving a second or third input, the a second or third input specifying a parameter keyframe indicating the value for the first parameter at a first point in time."

69. Regarding claim 105, Gagne et al. disclose "further comprising receiving a second input, the second input specifying a parameter keyframe indicating the value for a parameter at a point in time (*lines 60-64 of column 4: "For example, a position versus time F-curve can be modified such that an object moves with a linear or a non-linear speed, as desired by deleting, storing and/or repositioning keyframes and interpolation parameters with respect to the time axis in the F-curve editor."*), and wherein animating the object comprises changing the value of the parameter according to the specified parameter behavior and further according to the specified parameter keyframe" (*lines 55-59 of column 4: "For each time-changing parameter associated with the animation, the parameter is displayed in the F-curve editor for the keyframes and is interpolated for the remaining frames to form the F-curve which the animator can manipulate to change the parameter with respect to time."*).

70. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate keyframes as taught by Gagne et al. in the method and system disclosed by Grinstein et al. The motivation for doing so would have been to increase the functionality of the animation interface by providing the animator with the ability to vary the degree of control over

the animation. Therefore, it would have been obvious to combine Grinstein et al. with Gagne et al. to obtain the invention specified in claim 105.

71. **Claims 108 and 111 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,714,201 to Grinstein et al. in view of U.S. Patent No. 5,883,639 to Walton et al.**

72. Regarding claim 108, Grinstein et al. does not disclose "the object comprises a two-dimensional object." Walton et al. shows an animated object comprising a text object that can have behaviors attached to it (lines 62-67 of column 12: "Line attributes, drawing modes, shapes and text may also be selected in accordance with techniques known to those skilled in the art."; Fig. 4b shows behaviors).

73. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate a text object as taught by Walton et al. in the system disclosed by Grinstein et al. The motivation for doing so would have been to enhance the usability and efficiency of the method in the computer implemented animation system so the animator can be more productive, otherwise the letters would have to be created by grouping primitive shapes in three dimensions. Therefore, it would have been obvious to combine Grinstein et al. with Walton et al. to obtain the invention specified in claim 108.

74. Regarding claim 111, Grinstein et al. shows the limitations of parent claim 94, and "the first parameter is associated with the motion behavior applied to the object, and wherein the motion behavior comprises one from a group consisting of: a Crawl Left behavior; a Crawl Right behavior; a Scroll Up behavior; a Scroll Down behavior, a Randomize behavior; a Sequence behavior; a Position behavior; a Rotation behavior; an Opacity behavior, a Scale behavior, a Tracking behavior; and a Type On behavior," wherein Grinstein et al. shows a scale behavior

(*TABLE 27 in column 47 shows a scale deformation "to proportionally change in size"*) and a Rotation behavior (*Whirl and Sway in TABLE 29 in column 50*). Grinstein et al. does not disclose the object comprising a text object.

75. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate a text object as taught by Walton et al. in the system disclosed by Grinstein et al. The motivation for doing so would have been to enhance the usability and efficiency of the method in the computer implemented animation system so the animator can be more productive, otherwise the letters would have to be created by grouping primitive shapes in three dimensions. Therefore, it would have been obvious to combine Grinstein et al. with Walton et al. to obtain the invention specified in claim 111.

76. Claim 109 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,714,201 to Grinstein et al. in view of U.S. Patent Application Publication No. 2004/0036711 to Anderson.

77. Regarding claim 109, Grinstein et al. does not expressly disclose "an image object; a text object; a particle system."

78. Anderson discloses "the object comprises one from a group consisting of: an image object; a text object; a particle system," wherein Anderson discloses a particle system (*paragraph [0057]: "The user can place a group of dirt particles where the bunny lands. A dust tool can be activated, for example by selecting an icon having a handle attached to a hoop. The user can sweep the dust tool through the dirt particles--with each sweep, all the particles within the hoop are moved slightly in the direction of the sweep."*).

79. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate a particle system as disclosed by Anderson in the system disclosed by Grinstein et al. The motivation for doing so would have been model the physical properties smoke and explosions for example. Therefore, it would have been obvious to combine Grinstein et al. with Anderson to obtain the invention specified in claim 109.

80. **Claim 112 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,714,201 to Grinstein et al. in view of U.S. Patent No. 6,909,431 to Anderson et al.**

81. Regarding claim 112, the limitations recited lines 1-6 of claim 112 are similar in scope to lines 1-6 of claim 86, which are disclosed by Grinstein et al. Grinstein et al. does not expressly disclose "a Drift Attracted To behavior, which changes a position of the object based on a position of a second object while not affecting the position of a second object."

82. Anderson discloses an Attracted To behavior for changing a position of the object based on a position of a second object (*lines 61-65 of column 4: " Objects dependent on the motion of character 62 such as shirt 64 and tie 60 may be exposed to forces generated by the reference motion, i.e. the motion of the object, character 62, on which dependent objects such as shirt 64 and tie 60 depend. "*) while not affecting the position of the second object (*lines 10-16 of column 5: " The forces generated by the position tack are calculated by computing the accelerations required to arrive at the reference position in 3-dimensional space while matching the reference velocity under the assumption that <u>the velocity of the reference object remains unchanged.</u>"*), wherein the behavior can be modified (*lines 4-6 of column 5: " Weight field 66 may be applied to objects to be animated such as tie 60 in any conventional manner such as painting."*) using at least one of: a falloff rate parameter (*lines 1-6 of column 5: " Position tacks such as tack 50 make*

use of a weight field 66 which represents the degree to which the reference motion will be followed by a particular part of the simulation object such as tie 60."), which determines a rate of acceleration with which an attracted object moves towards an object of attraction (*lines 14-16 of column 5: " This technique produces accelerations which include both an attractive component and a velocity damping component."*)

83. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use Anderson's position tacks supplying the Attracted To behavior with a falloff rate parameter in Grinstein's animation system. The motivation for doing so would have been to enable an animator to simulate a tie attached to a person running in an intuitive an accurate manner. Therefore, it would have been obvious to combine Anderson with Grinstein et al. to obtain the invention specified in claim 112.

Response to Arguments

84. Applicant's arguments filed 29 October 2007 have been fully considered but they are not persuasive.

Claim 1

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection necessitated by amendment.

Claim 71

85. Applicant's argument regarding claim 71 is unpersuasive because Grinstein can animate an object according to the Gravity and Wind controller simultaneously. Applicant is correct in stating that only one controller for each DOF group can be active at one time (29:49-50). Examples of controllers for a DOF group include the positionControl and veclocityControl

(TABLE 14, col. 29). Both controllers specify the trajectory of motion in different ways, i.e. by specifying either position or velocity. Grinstein et al. forbids specifying the trajectory of motion using both velocity and position at the same time because position is derived from velocity when the velocity controller is active (29:50-55). Permitting two active controllers would either be redundant, or create inconsistencies. From these teachings, Applicant incorrectly draws the conclusion that "Since the Gravity controller and the Wind controller both affect an object's position, they cannot be active at the same time." However, Gravity and Wind are global controllers, and global controllers affect the controlled motions by providing controlled motions with parameters (see 6.4.2.10, col. 49). Regarding multiple motions affecting an object, e.g. Sail and Waver controlled by wind and gravity as shown in Table 29 of column 50, Grinstein et al. disclose:

> *...it is common to associate multiple motions with a model node 536 or 536A." When this is done, the respective positions, orientations, and scaling attribute values of all the models associated with a given node are summed to form, in effect, one composite motion which is applied to the given model node. (57: 60-65)*

One of several ways that Grinstein can animate an object according to the Gravity and Wind controller simultaneously by associating multiple motions with a model node, where the multiple motions are controlled by the Wind and Gravity controllers. Therefore, Applicant's argument regarding claim 71 is unpersuasive.

<u>Claim 86</u>

86. Applicant's assertion that the rotational speed of the object 1 in Unama cannot be configured is incorrect in view of paragraphs [131] and [0097]. Unuma et al. reads on the

interpretation that the "object's rotation" is either the object's rotational orientation or the object's rotational motion. In paragraph [0097], Unuma discloses "to set the action speed, the operator uses a motion specification icon 33 of FIG. 2." Thus, Unuma et al. discloses configuring rotational motion speed. In paragraph [131], Unuma discloses that the "moving direction controller 82 then rotates the object 1 about the y axis so that the front side thereof faces to the transit point 401." As such, the object will rotate according to the transit point 401 at a speed set by the operator by the amount of difference between the original orientation of the object and the orientation when facing the transit point. If there is little difference in orientation then the object's rotation will change quickly, as compared to the situation where there is a great difference, given both situations rotate at the same speed, which is configured by the operator as disclosed in paragraph [0097]. Thus, Applicant's argument is unpersuasive.

Claim 88

87. Applicant argues that Grinstein's behaviors must be based on "the object's proximity to a location." This is incorrect. Grinstein's method can apply draw and rotational drag "regardless of the object's proximity to another object" because a boundary can be specified by boundary expressions as disclosed in 6.2.7.4 and Table 20 (*column 33*), which are not necessarily associated with an proximity to a location. Specifically, Grinstein et al. disclose the spatial predicate "isInside" (TABLE 22 in column 34), where the boundary expression passed to this spatial predicate can be a sphere or box (TABLE 20 in column 33). For an object placed inside a box or sphere boundary, the resulting motion would apply gain and bias, simulating the effects of friction, for the object anywhere inside a large volume, regardless of the object's proximity to a location. Therefore, Applicant's arguments regarding claim 88 are unpersuasive.

Claim 94

88. Applicant's amendment to claim 94 does not distinguish the claimed invention from the teachings of Grinstien. An object animated by the Whirl controlled motion, which are controlled by wind and gravity controllers, cause the objects to rotate as shown in TABLE 29 in column 50. Rotation changes the orientation of an object, not its position. *See e.g.,* Grinstein's TABLE 7 in column 22 and the Spin motion in Figure 16. Thus, Applicant's argument that the limitation "animating the object comprises not changing the objects position" distinguishes the claimed invention from Grinstein is unpersuasive.

89. It is noted that the features upon which applicant discusses in connection with this limitation (i.e., "changing the size or opacity") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). However, Grinstein et al. disclose the deformation parameter motions that change the size of an object in 6.4.2.4 in column 47.

Claims 112

1. Applicant's arguments with respect to claim 112 have been considered but are moot in view of the new ground(s) of rejection necessitated by amendment.

Other Claims

90. Applicant bases the argument for the patentability of the dependent claims on the reasons discussed with respect to the parent claims. As shown in the preceding paragraphs, Applicant's arguments are not persuasive.

Conclusion

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Repko whose telephone number is (571)272-8624. The examiner can normally be reached on Monday through Friday 8:30 am -5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on 571-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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JMR